

REMARKS

Claims 7, 10, 11, 13, 14, 16-20, and 25-26 are now pending in the application. Independent claim 7 has been amended to incorporate the film thickness of dependent claim 24; accordingly claim 24 is cancelled. Independent claims 11 and 16 are also amended to include the film thickness (i.e., from about 2 mils to about 5 mils) as disclosed in the specification in paragraphs [0010], [0021], [0023], [0032], and in claims 19 and 20.

REJECTION UNDER 35 U.S.C. § 103 – RAVINOVITCH IN VIEW OF KRAFT

Claims 7, 10, 11, 13, 16, 17, 19, 20, and 24 are rejected under 35 USC 103(a) as allegedly being unpatentable over Ravinovitch et al. (US Pat. No. 4,424,292) (hereinafter Ravinovitch) in view of Kraft et al. (US Pat. No. 4,056,397) (hereinafter Kraft).

Independent claims 7, 11, 16, 19, and 20 include, among other features, an amount of infrared reflective pigment such that “there is essentially no transmittance of light of near infrared wavelength” and where the layer is “from about 2 mils to about 5 mils thick.” Applicants submit that at least these two features are missing from Ravinovitch in view of Kraft.

Ravinovitch teaches compositions for making vinyl house siding where the siding may be all one piece, or it may be an extruded composite of a capstock over a substrate, with the capstock containing the infrared reflecting pigment. Ravinovitch col. 3, lines 13-22. The various capstock samples of Example I in Ravinovitch had thicknesses of 0.45 in., which is 450 mils. Ravinovitch col. 4, line 58 to col. 5, line 1.

Ravinovitch does not teach or suggest any other capstock thickness, nor does the reference provide any motivation for changing the capstock thickness, nor does Ravinovitch teach using a film in place of the thicker capstock. In addition, the Kraft reference does not teach or suggest capstock of any thickness whatever for vinyl house siding.

Ravinovitch also does not teach including the pigment in a sufficient amount so that 'there is essentially no transmittance of light of near infrared wavelength through the film' as the Examiner admits. Office Action from July 27, 2006, page 3. The addition of Kraft, which was applied to address these shortcomings, still does not suggest this limitation.

Kraft teaches photographic monosheet material that contains a light reflecting pigment layer designed to reflect visible light in order to mask the image silver and form a light proof seal. Kraft abstract; col. 1, lines 4-5; col. 2, lines 49-50. The thickness of the layer may be varied according to the desired whiteness of the background. Kraft col. 8, lines 30-32. The Examiner agreed with Applicants that, "at best, Kraft informs the skilled artisan that increasing a pigment layer thickness can increase reflectivity." Advisory Action from Oct. 17, 2006, page 2.

The straightforward combination of Ravinovitch with Kraft would therefore necessarily involve increasing the material thickness (as taught by Kraft), where the material is either in the form of siding or capstock, to the point where there is no IR transmittance. Assuming, *in arguendo*, that capstock is thinner than siding, taking the Ravinovitch capstock and applying the teachings of Kraft, the skilled artisan would be led to make a capstock having a thickness of greater than 450 mils. Therefore, the

combination of these references fails to render the present claims obvious in that the combination does not teach or suggest layers or films "from about 2 mils to about 5 mils thick" with an amount of infrared reflective pigment such that "there is essentially no transmittance of light of near infrared wavelength."

Moreover, Ravinovitch in view of Kraft, in effect, teaches away from the present claims. If a skilled artisan were to combine Ravinovitch with the Kraft teachings, the skilled artisan would take the capstock from Ravinovitch and, applying the result effective variable from Kraft, would consequently increase the thickness in order to optimize the reflection spectra of the layer to the point that there is no transmittance of IR light. Since the capstock disclosed in Ravinovitch is 450 mils, the skilled artisan would only be motivated to increase the thickness, thereby producing capstock greater than 450 mils. Consequently, the combination of these references does not teach or suggest a film or layer about 2 mils to about 5 mils thick. "A prima facie case of obviousness can be rebutted if the applicant ... can show 'that the art in any material respect taught away' from the claimed invention." *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (quoting *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (C.C.P.A. 1974)). "A reference may be said to teach away when a person of ordinary skill, upon reading the reference,...would be led in a direction divergent from the path that was taken by the applicant." *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999).

REJECTION UNDER 35 U.S.C. § 103 – RAVINOVITCH IN VIEW OF KRAFT AND SULLIVAN

Claims 14 and 18 are rejected under 35 USC 103(a) as being unpatentable over Ravinovitch et al. (US Pat. No. 4,424,292) and in view of Kraft et al. (US Pat. No. 4,056,397) and Sullivan et al. (US Pat. No. 6,416,868) (hereinafter Sullivan).

Dependent claims 14 and 18 stem from independent claims 11 and 16, respectively. Independent claims 11 and 16 include among other features, an amount of infrared reflective pigment such that “there is essentially no transmittance of light of near infrared wavelength” and where the layer is “from about 2 mils to about 5 mils thick.”

The Sullivan reference, which teaches coating metal substrates (col. 6, lines 49-53), is applied in addition to the Ravinovitch and Kraft references to reject claims 14 and 18. However, as demonstrated in the preceding section, a skilled artisan modifying the teachings of Ravinovitch with the proposition from Kraft would produce a capstock layer of > 450 mils in any attempt to optimize reflectivity and produce a layer having essentially no transmittance of light of near infrared wavelength. The Sullivan reference is silent on these subjects – it is provided solely for the teaching of coating metallic substrates.

Thus, no combination of these references would produce a film or coating layer from about 2 mils to about 5 mils that is applied to an aluminum article and that provides essentially no transmittance of light of near infrared wavelength.

REJECTION UNDER 35 U.S.C. § 103 – STAMPER

Claims 7, 10, 11, 13, 16, 17, 25, and 26 are rejected under 35 USC 103(a) as being obvious over Stamper et al. (US Pat. No. 4,574,103) (hereinafter Stamper).

The thickness from dependent claim 24 (i.e., from about 2 mils to about 5 mils) is now incorporated into independent claim 7. Likewise, this thickness limitation is incorporated into independent claims 11 and 16, based on paragraphs [0010], [0021], [0023], [0032], and claims 19 and 20.

Accordingly, the rejection of the claims based on the Stamper reference has been rendered moot, as all pending claims include the thickness of “from about 2 mils to about 5 mils” either from claims not rejected under Stamper or incorporated from the present specification. Reconsideration of the claims and withdrawal of the rejection are respectfully requested.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: March 9, 2007

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

By: Anna M. Budde
Anna M. Budde, Reg. No. 35,085

WAZ/akb